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EXAMINER	
MISLEH, JUSTIN P	

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,253	SUEMOTO ET AL.	
	Examiner	Art Unit	
	Justin P. Misleh	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed March 2, 2006 have been fully considered but they are not persuasive.

§ 102 REJECTION – KATAGIRI

2. Applicant argues, "It is noted that in the portion describing the zooming operation, Katagiri only indicates that the first image data are displayed on the monitor ... There is no indication that the first image data is recorded in a memory of any type ... Katagiri fails to teach that the first image data is recorded in a memory of any type."

3. The Examiner respectfully disagrees with Applicant's position. In the Non-Final Rejection (mailed November 2, 2005), the Examiner indicated that in Katagiri's figure 6, "all images are passed to the memory 76 before being displayed at the LCD 77" (see page 3). Furthermore, Katagiri indicates, "when ~~either hen~~ either the zooming switch S_T or S_W is turned ON status, the subject images which are focused on the CCD 73 are displayed on the liquid crystal monitor display 77, at intervals of every 30 msec-300 msec ... That is, it is possible to view the changing subject images according as the movement of the zoom lens 72 on the liquid crystal monitor display 77" (see column 19, lines 5 – 32).

5/15/06

4. Thus, it can be seen that Applicant's allegation is erroneous. Katagiri indeed teaches image data is recorded in volatile RAM memory 76. However, independent Claims 21 and 28 now require wherein the memory is a non-volatile memory, which Katagiri does not disclose.

Albeit, as will become evident below, interchangeably replacing volatile memories with non-volatile memories in digital cameras is well known in the art.

§ 103 REJECTION – SAKEGI, KATAGIRI

5/15/06

5. Applicant argues, "Katagiri is entirely silent regarding whether ~~the~~ during the time the main switch S_M is turned on to the time where the zoom lens is extended to the position W."

6. The Examiner agrees with Applicant' statement; however, Applicant's statement is not relevant to the rejection of the independent Claims 1, 9, and 15.

7. In regards to the rejection of independent Claims 1, 9, and 15 (see Non-Final Rejection, mailed November 2, 2005), the Examiner relied upon Katagiri to teach movement of a lens group (102) from a first predetermined position (position W in figure 11; prior to zooming) to a second predetermined position (any one of M_1, M_2, and T in figure 11; after the end of zooming). See pages Non-Final Rejection, pages 8, 11, and 15. The Examiner further indicated that Katagiri teaches (column 10, line 63 – column 11, line 32 and column 12, line 52 – column, line 61) capturing images during movement of the lens group (102) during zooming – capturing images when lens group (102) moves from position W to either position M_1, M_2, and/or T. The Examiner concluded Katagiri teaches controlling a memory to store data in accordance with the electronic information presently available from the image sensor during movement of the plurality of lens groups, as claimed. Again see pages Non-Final Rejection, pages 8, 11, and 15.

8. As stated above, it is irrelevant whether Katagiri captures images during the time when the lens groups are moving from their stored positions (i.e., completely retracted) to position W. The Examiner relied upon other Katagiri teachings. Furthermore, Applicant even admits

Katagiri teaches the portion relied upon by the Examiner by stating, "Katagiri details the possible operations to capture the image **after** the initialization position W is reached." See Reply, page 20.

9. Finally, as indicated in the Non-Final Office Rejection, it is important to note that Sakaegi already teaches moving lens groups from their stored positions (i.e., completely retracted) to their initialization position. In other words, Sakaegi teach moving lens from a first predetermined position to a second predetermined position. See Non-Final Office, pages 6, 7, 9, 10, and 12 – 14. Thus, it is unnecessary for Katagiri to repeat these teachings.

5/15/06

§ 103 REJECTION – SAKEGI, KATAGIRI, HIRASAWA

10. The Examiner agrees that Claims 6 – 8, 13, 14, and 18 – 20 depend from independent Claims 1, 9, and 15, directly or indirectly. However, it has been demonstrated above that Claims 1, 9, and 15 are unpatentable over the combination of Sakaegi and Katagiri. Thus, at least due to the dependency thereon, Claims 6 – 8, 13, 14, and 18 – 20 are also unpatentable over the combination of Sakaegi, Katagiri, and Hirasawa.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1 – 5, 9 – 12, 15 – 17, and 35 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaegi et al. in view of Katagiri.

13. For **Claim 1**, Sakaegi et al. disclose, as shown in figures 1 – 3, 4A, and 5A – 5F and as stated in columns 5 (lines 44 – 56), 6 (lines 6 – 19), 7 (lines 19 – 32), 8 (lines 5 – 8 and 53 – 67), 9 (lines 1 – 65), 10 (lines 54 – 67), and 11 (lines 1 – 32), a digital camera, comprising:

(a) a housing (1; see figure 1) provided with at least a single lens (lens barrel 2) movable along an optical axis in accordance with an instructed magnification (An instructed magnification is inherent at time of lens manufacture, including zero magnification.);

(b) an image sensor (image pickup element 6) disposed for receiving light through the at least single lens (lens barrel 2) and producing an electronic information in accordance therewith;

(c) a memory (recording apparatus 16) connected to the image sensor (image pickup element 6) for receiving and storing data in accordance with the electronic information received from the image sensor (The memory 16 is connected to the image sensor 6 by means of the control circuits shown in figures 2 and 3); and

(d) a controller (control circuit 17) electronically controlling the memory (16; by mean of disc motor control circuit 18) and movement of the at least single lens (lens barrel 2), the controller (control circuit 17) having program logic (flowchart of figure 4A) defining a plurality of operation modes (single shot mode, low speed continuous mode, and high speed continuous mode; designated by switching control unit 10 connected to control circuit 17; see figure 2; column 6, lines 14 – 19; column 7, lines 19 – 21), the logic upon initiation determining an operation mode, and if the mode is determined to be an image recording mode (all three modes are image recording modes), the logic causing the controller to commence moving the single lens

to initialization positions and performs initialization processing for enabling image recording, and after completion of the initialization processing for enabling image processing, upon receipt of a command for image recording, control the memory to store data in accordance with the electronic information presently available from the image sensor (see explanation below).

The control circuit (17) operates according the flowchart of figure 4A. As stated in column 10 (lines 54 – 58), photographing and recording operations can be executed immediately after the initiation of a photographing and recording trigger (SW2 of two-stroke release switch 8). Furthermore, Sakaegi et al. state that there exists an "initial status" and a "predetermined status". The "initial status" is defined as the mirror (4) set down to the photographing optical axis to guide the light to the optical finder and the photometry apparatus (19) and/or the single lens (2) out-of-focus position at start-up (see column 10, lines 63 – 66) as is represented in figure 4A-1. The "predetermined status" is defined as the mirror (4) set up to a predetermined fixed position (see Step S57 in figure 4A-2), the aperture (3) at a predetermined stop (see Step S57 in figure 4A-2), and/or the single lens (2) in an in-focus position (see column 11, lines 1 – 3). Clearly, the "initial status" represents the camera at startup and the flow from Step S50 (in figure 4A-1) until X (in figure 4A-2); and the "predetermined status" represents the camera just before a photographing operation (Step S57 – S68 in figure 4A-2). As stated in column 11 (lines 3 – 9), the transition from "initial status" to "predetermined status" is the initialization processing and the commence moving the single lens to an initialization position, as claimed. Finally, Sakaegi et al. disclose, as indicated in figure 4A-2, control the memory to store data in accordance with the electronic information presently available from the image sensor AFTER the lens group has arrived at its initialization position (see Steps S60 and S61).

Therefore, Sakaegi et al. does not disclose:

(a) a plurality of lens groups; and

(b) controlling the memory to store data in accordance with the electronic information presently available from the image sensor DURING movement of the plurality of lens groups.

With respect to (a) and (b), Katagiri also disclose an analogous electronic camera with a lens group. Additionally, Katagiri teaches a lens groups that is comprised of plurality of lens groups that collectively move between a first position and a second position.

More specifically, Katagiri disclose, as shown figures 2 – 4 and 11, a plurality of lens groups (102 – see figures 4 and 7); a memory (76 – see figure 6) for storing image data corresponding to the image sensed by the image sensor (73); and a controller (71 – see figure 6), wherein when the controller (71) receives instructions to record the image during a movement of the plurality of lens groups (zooming operation of 102 – see figure 11) from a first predetermined position (lens position at beginning of zooming operation W – see figure 11) to a second predetermined lens position (lens position at end of zooming operation T – see figure 11), the controller (71) controls the image sensor (73) to sense the image prior to the plurality of lens groups (102) have completed their movements to the second predetermined lens position (lens position at end of zooming operation T – see figure 11) for recording the image data into the memory (all images are passed to the memory 76 before being displayed at the LCD 77 – see figure 6; also see column 10, line 63 – column 11, line 32 and see column 12, line 52 – column 13, line 61 wherein Katagiri describes that images are captured and displayed during the zooming operation).

Therefore, Katagiri teaches controlling a memory to store data in accordance with the electronic information presently available from the image sensor during movement of the plurality of lens groups, as claimed.

As stated in column 25 (lines 7 – 19) of Katagiri, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included plurality of lens groups and controlling a memory to store data in accordance with the electronic information presently available from the image sensor during movement of the plurality of lens group in the electronic camera disclosed Sakaegi et al. for the advantage inhibiting "any sense of incongruity for the user".

14. For **Claim 9**, Sakaegi et al. disclose, as shown in figures 1 – 3, 4A, and 5A – 5F and as stated in columns 5 (lines 44 – 56), 6 (lines 6 – 19), 7 (lines 19 – 32), 8 (lines 5 – 8 and 53 – 67), 9 (lines 1 – 65), 10 (lines 54 – 67), and 11 (lines 1 – 32), a method for activating a digital camera having at least a single lens (lens barrel 2) which moves in accordance with an instructed magnification (An instructed magnification is inherent at time of lens manufacture, including zero magnification.), and an image sensing system (image pickup element 6) disposed for receiving an image from the single lens (2) and producing an electronic information representing the image, the method comprising:

(a) determining an operation mode upon power initiation (single shot mode, low speed continuous mode, and high speed continuous mode; designated by switching control unit 10 connected to control circuit 17; see figure 2; column 6, lines 14 – 19; column 7, lines 19 – 21); and

(b) if the operation mode is an image recording mode (all three modes are image recording modes), then:

(i) initializing the image sensing system for receiving an image from the single lens and producing the electronic information representing the image (see "initialization processing" below);

(ii) moving the single lens (2) to initialization positions (see "initial status" and "predetermined status" below); and

(iii) after completion of initializing the image sensing system, upon receipt of a command to record an image, recording an electronic information (in memory 16) representing an image presently available from the image sensing system (see "photographing and recording trigger" below) AFTER the lens groups arriving at the initialization positions.

The control circuit (17) operates according the flowchart of figure 4A. As stated in column 10 (lines 54 – 58), photographing and recording operations can be executed immediately after the initiation of a photographing and recording trigger (SW2 of two-stroke release switch 8). Furthermore, Sakaegi et al. state that there exists an "initial status" and a "predetermined status". The "initial status" is defined as the mirror (4) set down to the photographing optical axis to guide the light to the optical finder and the photometry apparatus (19) and/or the single lens (2) out-of-focus position at start-up (see column 10, lines 63 – 66) as is represented in figure 4A-1. The "predetermined status" is defined as the mirror (4) set up to a predetermined fixed position (see Step S57 in figure 4A-2), the aperture (3) at a predetermined stop (see Step S57 in figure 4A-2), and/or the single lens (2) in an in-focus position (see column 11, lines 1 – 3). Clearly, the "initial status" represents the camera at startup and the flow from Step S50 (in figure

4A-1) until X (in figure 4A-2); and the "predetermined status" represents the camera just before a photographing operation (Step S57 – S68 in figure 4A-2). As stated in column 11 (lines 3 – 9), the transition from "initial status" to "predetermined status" is the initialization processing and the commence moving the single lens to an initialization position, as claimed. Finally, Sakaegi et al. disclose, as indicated in figure 4A-2, control the memory to store data in accordance with the electronic information presently available from the image sensor AFTER the lens group has arrived at its initialization position (see Steps S60 and S61).

Therefore, Sakaegi et al. does not disclose:

(a) a plurality of lens groups; and

(b) controlling the memory to store data in accordance with the electronic information presently available from the image sensor DURING movement of the plurality of lens groups.

With respect to (a) and (b), Katagiri also disclose an analogous electronic camera with a lens group. Additionally, Katagiri teaches a lens groups that is comprised of plurality of lens groups that collectively move between a first position and a second position.

More specifically, Katagiri disclose, as shown figures 2 – 4 and 11, a plurality of lens groups (102 – see figures 4 and 7); a memory (76 – see figure 6) for storing image data corresponding to the image sensed by the image sensor (73); and a controller (71 – see figure 6), wherein when the controller (71) receives instructions to record the image during a movement of the plurality of lens groups (zooming operation of 102 – see figure 11) from a first predetermined position (lens position at beginning of zooming operation W – see figure 11) to a second predetermined lens position (lens position at end of zooming operation T – see figure 11), the controller (71) controls the image sensor (73) to sense the image prior to the plurality of lens

groups (102) have completed their movements to the second predetermined lens position (lens position at end of zooming operation T – see figure 11) for recording the image data into the memory (all images are passed to the memory 76 before being displayed at the LCD 77 – see figure 6; also see column 10, line 63 – column 11, line 32 and see column 12, line 52 – column 13, line 61 wherein Katagiri describes that images are captured and displayed during the zooming operation).

Therefore, Katagiri teaches controlling a memory to store data in accordance with the electronic information presently available from the image sensor during movement of the plurality of lens groups, as claimed.

As stated in column 25 (lines 7 – 19) of Katagiri, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included plurality of lens groups and controlling a memory to store data in accordance with the electronic information presently available from the image sensor during movement of the plurality of lens group in the electronic camera disclosed Sakaegi et al. for the advantage inhibiting "any sense of incongruity for the user".

15. For **Claim 15**, Sakaegi et al. disclose, as shown in figures 1 – 3, 4A, and 5A – 5F and as stated in columns 5 (lines 44 – 56), 6 (lines 6 – 19), 7 (lines 19 – 32), 8 (lines 5 – 8 and 53 – 67), 9 (lines 1 – 65), 10 (lines 54 – 67), and 11 (lines 1 – 32), a method for use in a digital camera having at least a single lens (lens barrel 2) which moves in accordance with an instructed magnification (An instructed magnification is inherent at time of lens manufacture, including zero magnification.), and an image sensing system (image pickup element 6) disposed for

receiving an image from the single lens (2) and producing an electronic information representing the image, the method comprising:

(a) determining if an operation mode has changed (The action of powering up the camera changes the camera from an off mode to at least an image recording mode); and

(b) if the operation mode is an image recording mode (single shot mode, low speed continuous mode, and high speed continuous mode; designated by switching control unit 10 are all image recording modes), then:

(i) initializing the image sensing system for receiving an image from the single lens and producing the electronic information representing the image (see "initialization processing" below);

(ii) moving the single lens (2) to initialization positions (see "initial status" and "predetermined status" below); and

(iii) after completion of initializing the image sensing system, upon receipt of a command to record an image, recording an electronic information (in memory 16) representing an image presently available from the image sensing system (see "photographing and recording trigger" below) AFTER the lens groups arriving at the initialization positions.

The control circuit (17) operates according the flowchart of figure 4A. As stated in column 10 (lines 54 – 58), photographing and recording operations can be executed immediately after the initiation of a photographing and recording trigger (SW2 of two-stroke release switch 8). Furthermore, Sakaegi et al. state that there exists an "initial status" and a "predetermined status". The "initial status" is defined as the mirror (4) set down to the photographing optical axis to guide the light to the optical finder and the photometry apparatus (19) and/or the single

lens (2) out-of-focus position at start-up (see column 10, lines 63 – 66) as is represented in figure 4A-1. The "predetermined status" is defined as the mirror (4) set up to a predetermined fixed position (see Step S57 in figure 4A-2), the aperture (3) at a predetermined stop (see Step S57 in figure 4A-2), and/or the single lens (2) in an in-focus position (see column 11, lines 1 – 3). Clearly, the "initial status" represents the camera at startup and the flow from Step S50 (in figure 4A-1) until X (in figure 4A-2); and the "predetermined status" represents the camera just before a photographing operation (Step S57 – S68 in figure 4A-2). As stated in column 11 (lines 3 – 9), the transition from "initial status" to "predetermined status" is the initialization processing and the commence moving the single lens to an initialization position, as claimed. Finally, Sakaegi et al. disclose, as indicated in figure 4A-2, control the memory to store data in accordance with the electronic information presently available from the image sensor AFTER the lens group has arrived at its initialization position (see Steps S60 and S61).

Therefore, Sakaegi et al. does not disclose:

(a) a plurality of lens groups; and

(b) controlling the memory to store data in accordance with the electronic information presently available from the image sensor DURING movement of the plurality of lens groups.

With respect to (a) and (b), Katagiri also disclose an analogous electronic camera with a lens group. Additionally, Katagiri teaches a lens groups that is comprised of plurality of lens groups that collectively move between a first position and a second position.

More specifically, Katagiri disclose, as shown figures 2 – 4 and 11, a plurality of lens groups (102 – see figures 4 and 7); a memory (76 – see figure 6) for storing image data corresponding to the image sensed by the image sensor (73); and a controller (71 – see figure 6),

wherein when the controller (71) receives instructions to record the image during a movement of the plurality of lens groups (zooming operation of 102 – see figure 11) from a first predetermined position (lens position at beginning of zooming operation W – see figure 11) to a second predetermined lens position (lens position at end of zooming operation T – see figure 11), the controller (71) controls the image sensor (73) to sense the image prior to the plurality of lens groups (102) have completed their movements to the second predetermined lens position (lens position at end of zooming operation T – see figure 11) for recording the image data into the memory (all images are passed to the memory 76 before being displayed at the LCD 77 – see figure 6; also see column 10, line 63 – column 11, line 32 and see column 12, line 52 – column 13, line 61 wherein Katagiri describes that images are captured and displayed during the zooming operation).

Therefore, Katagiri teaches controlling a memory to store data in accordance with the electronic information presently available from the image sensor during movement of the plurality of lens groups, as claimed.

As stated in column 25 (lines 7 – 19) of Katagiri, at the time the invention was made it would have been obvious to one with ordinary skill in the art to have included plurality of lens groups and controlling a memory to store data in accordance with the electronic information presently available from the image sensor during movement of the plurality of lens group in the electronic camera disclosed Sakaegi et al. for the advantage inhibiting "any sense of incongruity for the user".

16. As for **Claim 2**, Sakaegi et al. disclose, as shown in figures 4A-1 and 5F, the digital camera according to Claim 1, wherein said program logic causes the controller (17) to initialize

the image sensor (Steps S502 and 503) and memory (6) for image recording (Step S522, 521, and 522).

17. As for **Claim 3**, Sakaegi et al. disclose, as shown in figures 4A-1 and 5E, the digital camera according to Claim 2, further comprising a display (7) device controlled by the controller (17), the program logic upon initialization, initializing the display device (6) for displaying information (Step S S525).

18. As for **Claim 4**, Sakaegi et al. disclose, as shown in figure 1 and as stated in column 5 (line 49), the digital camera according to Claim 3, wherein said display device is a display.

19. As for **Claims 5 and 12**, Katagiri discloses, as shown in figure 4, wherein the plurality of lens groups (102) include a zoom lens (front and rear lens groups 5 and 7 – see figure 4) and a focus lens (front and rear lens groups 5 and 7 – see figure 4), wherein the controller (71) controls a movement of the zoom lens to control an image magnification and the controller controls the movement of the focus lens to control image focus (see column 9, lines 47 – 54).

20. As for **Claim 10**, Sakaegi et al. disclose, as shown in figure 2 and as stated in column 6 (lines 6 – 11), the method of Claim 9, wherein recording electronic information representing an image includes storing data in a memory (16) in accordance with the electronic information.

21. As for **Claim 11**, while Sakaegi et al. disclose an LCD display (7), Sakaegi et al. does not disclose displaying an image in accordance with the electronic information on a display device. However, **Official Notice** is taken that both the concepts and advantages of providing displaying an image in accordance with the electronic information on a display device are well known and expected in the art as a means to provide a preview feature so as to reduce wasted available memory space. At the time the invention was made, it would have been obvious to one with

ordinary skill in the art to have displaying an image in accordance with the electronic information on a display device in the electronic camera of Sakaegi et al. in view of Katagiri.

22. As for **Claim 16**, Sakaegi et al. disclose, as shown in figures 2, 4A-1, 5B, 5D, and 5F and as stated in columns 6 (lines 6 – 11) and 7 (lines 19 – 32), the method of Claim 15, wherein the camera includes a memory (16) and initializing the image sensing system includes initializing the memory for storing data (Step S52, 521, 522) in accordance with the electronic information from the image sensing system.

23. As for **Claim 17**, while Sakaegi et al. disclose an LCD display (7), Sakaegi et al. does not disclose an image preview feature as claimed: enabling image recording includes enabling display of an image in accordance with the electronic information from the image sensing system.

However, **Official Notice** is taken that both the concepts and advantages of providing an image preview feature are well known and expected in the art as a means to reduce wasted available memory space. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have an image preview feature in the electronic camera of Sakaegi et al. in view of Katagiri.

24. As for **Claims 35 – 37**, as stated in column 11 (lines 10 – 15), Katagiri indeed teaches image data is recorded in volatile RAM memory (76). Although, the claims now require wherein the memory is a non-volatile memory, which Katagiri does not disclose.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of interchangeably replacing volatile memories with non-volatile memories in digital cameras are well known and expected in the art. At the time the invention was made, it would

have been obvious to one with ordinary skill in the art to replace Katagiri's volatile RAM memory (76) with a non-volatile RAM memory (NVRAM) for the clear advantage *that NVRAM does not lose its information when power is turned off.*

25. As for **Claims 38 – 40**, as stated above with respect to Sakaegi's column 10 (lines 54 – 58), photographing and recording operations can be executed immediately after the initiation of a photographing and recording trigger (SW2 of two-stroke release switch 8). Furthermore, Sakaegi et al. state that there exists an "initial status" and a "predetermined status". As stated in column 11 (lines 3 – 9), the transition from "initial status" to "predetermined status" is the initialization processing and the commence moving the single lens to an initialization position, as claimed. Finally, Sakaegi et al. disclose, as indicated in figure 4A-2, control the memory to store data in accordance with the electronic information presently available from the image sensor AFTER the lens group has arrived at its initialization position (see Steps S60 and S61). Therefore, Sakaegi discloses wherein the command for image recording occurs when a shutter button is fully depressed.

26. <u>Claims 6 – 8, 13, 14, and 18 – 20</u> are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaegi et al. in view of Katagiri in further view of Hirasawa.

27. As for **Claims 6, 13, and 18**, while Sakaegi et al. in view of Katagiri disclose a lens barrel in electronic communication with the controller; Sakaegi et al. in view of Katagiri do not disclose a detector in electronic communication with the controller.

On the hand, Hirasawa also disclose a lens barrel. More specifically, Hirasawa disclose, as shown in figure 3 and as stated in columns 4 (lines 18 – 35 and 58 – 68) and 5 (lines 8 – 13), a

plurality of lens groups (101 – 104 including a zooming and focusing lens group). Hirasawa further disclose, as shown in figure 3 and as stated in columns 4 (lines 18 – 35 and 58 – 68) and 5 (lines 8 – 13), a detector (105) for detecting a movement amount of said zoom lens group (102), and controlling movement of the focus lens group (104) in accordance with a movement amount detected by said detector (105). The focus lens group (104) compensates the movements of the zoom lens group (104) to maintain an in-focus image, as stated in column 5 (lines 8 – 13).

As stated in column 2 (lines 58 – 62), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a plurality of lens groups with a detector in electronic communication with a controller, as taught by Hirasawa, in the lens barrel, of Sakaegi et al. in view of Katagiri, as a means to provide a lens barrel capable of a zooming operation without image blur, from the star of the operation. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have include a plurality of lens groups, as taught by Hirasawa, in the lens barrel, of Sakaegi et al. in view of Katagiri.

28. As for **Claims 7 and 19**, Hirasawa disclose that the detector is comprised of a photosensor, however; Hirasawa do not disclose wherein a cord plate and a terminal form said detector. **Official Notice** is taken that both the concepts and advantages of forming a detector with a cord plate and terminal are well known and expected in the art as a means to provide precise position detection of all lens groups at all times rather than only detection of the lens groups at certain reference positions. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included forming a detector with a cord plate and terminal in the electronic camera of Sakaegi et al. in view of Katagiri.

29. As for **Claims 8 and 20**, Hirasawa disclose, as shown in figure 3, that the zoom lens group (102) and the focus lens group (104) are driven by means of respective stepping motors (110 and 112). Therefore, the detector (105) detects step movement, each step corresponding to a movement range of said zoom lens group (104) from a retracted position to an initialization position divided into a substantially equal number of intervals, with step movement controlled by means of stepping motor (110).

30. As for **Claim 14**, Katagiri discloses, as shown in figure 11, dividing a range of the zoom lens group into a plurality of steps, said range being from a retracted position to the initialization position, and storing movement amounts of the focus lens group corresponding to respective steps, and reading the movement amounts of the focus lens group corresponding to the step detected by the detector and moving the focus lens group.

31. **Claims 21 – 34, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katagiri.**

32. For **Claims 21 and 28**, Katagiri discloses, as shown in figures 2 – 4, 6, 7, and 11, a camera (see figures 2 and 3) and corresponding method of operating thereof, comprising:

a plurality of lens groups (102 – see figures 4 and 7);

an image sensor (73 – see figure 6) for sensing an image from light received through the plurality of lens groups (102);

a memory (76 – see figure 6) for storing image data corresponding to the image sensed by the image sensor (73); and

a controller (71 – see figure 6) for controlling movements of the plurality of lens groups (102), for controlling the image sensor (73), and for controlling the storage of the image data into the memory (76),

wherein when the controller (71) receives instructions to record the image during a movement of the plurality of lens groups (zooming operation of 102 – see figure 11) from a first predetermined position (lens position at beginning of zooming operation W – see figure 11) to a second predetermined lens position (lens position at end of zooming operation T – see figure 11), the controller (71) controls the image sensor (73) to sense the image prior to the plurality of lens groups (102) have completed their movements to the second predetermined lens position (lens position at end of zooming operation T – see figure 11) for recording the image data into the memory (all images are passed to the memory 76 before being displayed at the LCD 77 – see figure 6; also see column 10, line 63 – column 11, line 32 and see column 12, line 52 – column 13, line 61 wherein Katagiri describes that images are captured and displayed during the zooming operation).

Furthermore, Katagiri indicates, "when either hen either the zooming switch S_T or S_W is turned ON status, the subject images which are focused on the CCD 73 are displayed on the liquid crystal monitor display 77, at intervals of every 30 msec-300 msec ... That is, it is possible to view the changing subject images according as the movement of the zoom lens 72 on the liquid crystal monitor display 77" (see column 19, lines 5 – 32). Thus, it can be seen that Katagiri indeed teaches image data is recorded in volatile RAM memory (76). Although, the claims now require wherein the memory is a non-volatile memory, which Katagiri does not disclose.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of interchangeably replacing volatile memories with non-volatile memories in digital cameras are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to replace Katagiri's volatile RAM memory (76) with a non-volatile RAM memory (NVRAM) for the clear advantage *that NVRAM does not lose its information when power is turned off.*

33. As for **Claims 22, 27, 29, and 34**, Katagiri discloses, as shown in figure 11 and as stated on column 15 (lines 5 – 15), wherein the first predetermined position (lens position at beginning of zooming operation W – see figure 11) of the plurality of lens groups (102) is one of a tele position and a wide position and the second predetermined position (lens position at end of zooming operation T – see figure 11) of the plurality of lens groups (102) is the other of the tele position and the wide position (The Examiner notes that Katagiri teaches capturing image during a zooming operation).

34. As for **Claims 23 and 30**, Katagiri discloses, as shown in figure 11 and as stated in column 12 (line 52) – column 13 (line 61), wherein the controller (71) controls the plurality of lens groups (102) such that the image is focused during the movement between the first and second predetermined positions.

35. As for **Claims 24 and 31**, Katagiri discloses, as stated in column 13 (lines 19 – 37), a display (77 – see figure 6), wherein the image is displayed on the display during the movement between the first and second predetermined positions (Katagiri clearly indicates that the image is displayed during zooming).

36. As for **Claims 25 and 32**, Katagiri discloses, as shown in figure 4, wherein the plurality of lens groups (102) include:

a zoom lens (front and rear lens groups 5 and 7 – see figure 4); and

a focus lens (front and rear lens groups 5 and 7 – see figure 4),

wherein the controller (71) controls a movement of the zoom lens to control an image magnification and the controller controls the movement of the focus lens to control image focus (see column 9, lines 47 – 54).

37. As for **Claims 26 and 33**, Katagiri discloses, as shown in figure 4, wherein the zoom lens (front and rear lens groups 5 and 7 – see figure 4) has a plurality of magnification ranges (see figure 11), the zoom lens (front and rear lens groups 5 and 7 – see figure 4) goes through the plurality of magnification ranges during the movement of the plurality of lens groups between a retracted position (see column 10, line 63 – column 11, line 32) and the first predetermined position (lens position at beginning of zooming operation W – see figure 11), and upon camera power up, the controller (71) controls the movement of the plurality of lens groups between the retracted and the first predetermined positions (again see column 10, line 63 – column 11, line 32).

38. As for **Claims 41 and 42**, Katagiri discloses, as shown in figure 6 and as stated in column 13 (lines 19 – 37) and in column 19 (lines 5 – 32), that during a zooming operation (i.e., during depression of zoom button 127), a lens group (102) moves from a first predetermined position (W – see figure 11) to a second predetermined position (any one of the zoom positions through position T – see figure 11) and dursing such movement images are regurally captured , passed image memory (76), and displayed.

Since the zoom button (127) initiates image capture and image storage during lens movement, upon full depression, the Examiner considers Katagiri's zoom button (127) to function as the claimed "shutter button".

39. **Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katagiri in view of Sakaegi.**

40. As for **Claims 43 and 44**, as stated above, Katagiri to teach movement of a lens group (102) from a first predetermined position (position W in figure 11; prior to zooming) to a second predetermined position (any one of M_1, M_2, and T in figure 11; after the end of zooming). The Examiner further indicated that Katagiri teaches (column 10, line 63 – column 11, line 32 and column 12, line 52 – column, line 61) capturing images during movement of the lens group (102) during zooming – capturing images when lens group (102) moves from position W to either position M_1, M_2, and/or T. While Katagiri teaches that the second predetermined position (T) corresponds to when the camera is turned on, Katagiri also teaches that the first predetermined position corresponds to when the camera is also turned on. Accordingly Katagiri does not disclose that the first predetermined position corresponds to when the camera is turned off.

On the other hand, Sakaegi also teaches a lens groups that is comprised of plurality of lens groups that collectively move between a first position and a second position. Specifically, according to the flowchart of figure 4A, Sakaegi et al. state that there exists an "initial status" and a "predetermined status" and the "initial status" is defined as the mirror (4) set down to the photographing optical axis to guide the light to the optical finder and the photometry apparatus (19) and/or the single lens (2) out-of-focus position at start-up (see column 10, lines 63 – 66) as

is represented in figure 4A-1 and the "predetermined status" is defined as the mirror (4) set up to a predetermined fixed position (see Step S57 in figure 4A-2), the aperture (3) at a predetermined stop (see Step S57 in figure 4A-2), and/or the single lens (2) in an in-focus position (see column 11, lines 1 – 3). Clearly, the "initial status" represents the camera at startup and the flow from Step S50 (in figure 4A-1) until X (in figure 4A-2); and the "predetermined status" represents the camera just before a photographing operation (Step S57 – S68 in figure 4A-2). As stated in column 11 (lines 3 – 9), the transition from "initial status" to "predetermined status" is the initialization processing and the commence moving the single lens to an initialization position.

Thus, Sakaegi et al. provide a first predetermined position corresponding to when the camera is turned off.

As stated in column 3 (lines 1 – 3 and 13 – 16) of Sakaegi et al., at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included a first predetermined position corresponding to when the camera is turned off (as taught by Sakaegi et al. in the digital camera (disclosed by Katagiri) for the advantage *reducing a time necessary for image photographing and recording and providing a camera capable of photographing without a time lag.*

Conclusion

41. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

42. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David L Ometz can be reached on 571.272.7593. The fax phone number for the organization where this application or proceeding is assigned is 571.273.3000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
May 15, 2006

DAVID OMETZ
SUPERVISORY PATENT EXAMINER